

**Abstract**

**Process for producing an Si<sub>3</sub>N<sub>4</sub>-coated SiO<sub>2</sub> shaped body**

A process for producing an Si<sub>3</sub>N<sub>4</sub>-coated SiO<sub>2</sub> shaped body from an SiO<sub>2</sub> green body, wherein a precursor which is suitable for forming an Si<sub>3</sub>N<sub>4</sub> sintered layer is applied to a surface of the amorphous, open-pore SiO<sub>2</sub> green body, and then the precursor is converted in situ into an Si<sub>3</sub>N<sub>4</sub> sintered layer under a laser beam.